# Serious Mental Illness Treatment Research and Evaluation Center (SMITREC) Health Services Research and Development Center of Excellence

P.O. Box 130170 Ann Arbor, MI 48113-0170 Phone: 734-930-5139

Fax: 734-930-5150

## Care for Veterans with

## Psychosis in the VHA, FY01

3<sup>rd</sup> Annual National Psychosis Registry Report

Frederic C. Blow, PhD, Director John F. McCarthy, PhD, MPH, Data Analyst Marcia Valenstein, MD, MS, Investigator John Zeber, MHA, Project Associate Leah Gillon, MSW, Project Manager

#### Acknowledgments

Miklos Losonczy, MD, Co-Chairperson of the Under Secretary's Special Committee on Care of Seriously Mentally Ill Veterans and William Van Stone, MD, Associate Chief, Treatment Services Division and the Strategic Healthcare Group for Mental Health Services have been essential contributors to SMITREC's growth and success since its inception, particularly in the development of the National Psychosis Registry. They have also provided ongoing feedback on the design and execution of this report.

Laurent Lehmann, MD, Chief, Strategic Healthcare Group for Mental Health Services, Robert Gresen, PhD, Chief of Treatment Services, Richard Suchinsky, MD, Mental Health Strategic Health Group, VA Central Office and Alan Mellow, MD, PhD, Director, Mental Health Service Line, Network 11 have provided ongoing support in the realization of this report.



## **Table of Contents**

List of Tables	6
Executive Summary	7
Longitudinal Data	9
FY01 Data	17
Background	28
Report Overview and Structure	30
Chapter 1: Demographics	31
Chapter 2: Other Patient Characteristics	43
Chapter 3: Utilization	69
Chapter 4: Pharmacy Utilization	145
Chapter 5: Cost	159
References	171
Appendix A: Building the Registry, Diagnoses and Diagnostic Groupings	176
Appendix B: Cost	177
Appendix C: Utilization Data	180

## **List of Tables**

Table 1A	FY01 Patients w/ Psychosis, Demographics, by Diagnosis Grouping	33
Table 1B	FY01 All Patients w/ Psychosis, Demographics, by VISN	34
Table 1C	FY01 Patients w/ Schizophrenia, Demographics, by VISN	36
Table 1D	FY01 Patients w/ Bipolar disorder, Demographics, by VISN	38
Table 1E	FY01 Patients w/ Other Psychoses, Demographics, by VISN	40
Table 2A	FY01 Patients w/ Psychosis, Patient Characteristics, by Diagnosis Grouping	49
Table 2B	FY01 All Patients w/ Psychosis, Patient Characteristics, by VISN	51
Table 2C	FY01 Patients w/ Schizophrenia, Patient Characteristics, by VISN	56
Table 2D	FY01 Patients w/ Bipolar disorder, Patient Characteristics, by VISN	60
Table 2E	FY01 Patients w/ Other Psychoses, Patient Characteristics, by VISN	64
Table 3A	FY01 Patients w/ Psychosis, Utilization, by Diagnosis Grouping	73
Table 3B	FY01 All Patients w/ Psychosis, Utilization, by VISN	80
Table 3C	FY01 Patients w/ Schizophrenia, Utilization, by VISN	96
Table 3D	FY01 Patients w/ Bipolar disorder, Utilization, by VISN	112
Table 3E	FY01 Patients w/ Other Psychoses, Utilization, by VISN	128
Table 4A	FY01 Patients w/ Psychosis, Pharmacy Utilization, by Diagnosis Grouping	149
Table 4B	FY01 All Patients w/ Psychosis, Pharmacy Utilization, by VISN	150
Table 4C	FY01 Patients w/ Schizophrenia, Pharmacy Utilization, by VISN	152
Table 4D	FY01 Patients w/ Bipolar disorder, Pharmacy Utilization, by VISN	154
Table 4E	FY01 Patients w/ Other Psychoses, Pharmacy Utilization, by VISN	156
Table 5A	FY01 Patients w/ Psychosis, Cost, by Diagnosis Grouping	161
Table 5B	FY01 All Patients w/ Psychosis, Costs, by VISN	162
Table 5C	FY01 Patients w/ Schizophrenia, Costs, by VISN	164
Table 5D	FY01 Patients w/ Bipolar disorder, Costs, by VISN	166
Table 5E	FY01 Patients w/ Other Psychoses, Costs, by VISN	168

#### **Executive Summary**

The Veterans Health Administration (VHA) continues to monitor and assess its capacity to treat its most vulnerable patients. The Serious Mental Illness Treatment Research and Evaluation Center (SMITREC) developed the National Psychosis Registry with the goal aiding in this undertaking. It includes comprehensive information on all veterans with psychosis who have received care in the VHA since Fiscal Year 1988.

This annual report, "Care for Veterans with Psychosis in the VHA" presents information on the state of care for patients with psychosis for the previous fiscal year and demonstrates changes over time, allowing for early detection of trends and proactive decision making.

The report has five chapters, each focusing on a specific domain of interest to the VHA, including demographics, patient characteristics, health services utilization, use of antipsychotic medications, and costs. Each chapter includes background and discussion of the domain, key findings, a guide to the tables, and the actual national and VISN level tables. The entire report, along with station level tables for each VISN will be available on our web site: (http://www.va.gov/annarbor-hsrd/SMITREC.htm)

#### **Major Longitudinal Findings**

- The population of patients with psychosis continues to rise, up 1.9% from FY00 and 2.7% from FY99.
- This growth is due to expansion in the number of patients with bipolar disorder (up 5.8% from FY00 and 9.4% from FY99) and other psychoses (up 12.8% from FY00 and 19.6% from FY99).
- The number of patients with schizophrenia has declined (down 3.5% from FY00 and 5.6% from FY99.)
- Unreported inpatient GAF scores remain very high, at almost 60%.
- Unreported outpatient GAF scores continue to drop (29.8% in FY99, 18.6% in FY00 and 14.3% in FY01)
- From FY99 to FY01, average total inpatient days decreased 23.8%, from 35.03 to 26.7 days per year.
- Average total psychiatric inpatient days were 8.3% lower since FY00 and 29.2% since FY99.
- The percentage of patients with psychiatric stays of at least 100 days fell from 3.9% in FY99 to 2.6%.
- Total outpatient clinic stops decreased 9.8% in FY01, with an overall decrease of 26.6% since FY99.
- Among patients with schizophrenia, Clozapine use has continued to slowly increase, to 2.9% in FY01.
- Among patients with schizophrenia, the percentage who received atypical anti-psychotics rose from 58.7% in FY99 to 77.4% in FY01.
- Among patients with schizophrenia receiving one category of antipsychotic, the mean Medication Possession Ratio (MPR) rose in FY01 (to 81.2%) after being down in FY00.
- The percentage of such patients who were very poorly compliant (MPR <0.5) continues to drop.
- Total costs increased 2% in FY01, while still 4.3% less than FY99.
- Pharmacy costs rose sharply 10.8% since FY00, and 12.3% since FY99.
- The ratio of patients with schizophrenia to those with bipolar disorder ranges from .85 to 2.5 across VISNs. It is unclear to what extent this is due to uneven distribution of diagnoses versus differing practice/diagnosis patterns.

#### **Major FY01 Findings**

- Almost 13% of patients had an indication of homelessness, with the rates for those with bipolar disorder higher than those with schizophrenia (15% vs. 12.4%).
- Forty-two percent of patients with schizophrenia had service connection of at least 70%, the cut off for long term care provisions mandated in the Millenuium Bill.
- Substantial variability across VISNs observed for numerous measures
  - percentage of patients with inpatient psychiatric care, from a high of 24.7 to a low of 12.8;
  - percentage of patients with an inpatient psychiatric stay of over 150 days, from 5.8 to 0.0;
  - cumulative days of inpatient psychiatric care, from a low of 7.35 to a high of 34.13;

- percentage of patients with at least one primary care stop, from 79.9 to 58.5;
- average number of case management clinic stops, from 4.4 to 0.04; and
- average number of overall clinic stops, from 29.2 to 58.7.
- use of Clozapine for patients with schizophrenia, ranging from 1.1 to 6.4 percent.
- 77.4% of patients with schizophrenia on antipsychotic medications received atypical agents in FY01.
- Among patients with schizophrenia who received one type of antipsychotics, 39.4% had MPRs less than 80%.
- Over \$3B was spent in FY01 on this population for medical and psychiatric care, almost 15% of the VA's budget for health care.
- \$15,673 was spent per patient in FY01, 44% for outpatient, 36% for inpatient, 20% for non-VA and long-term care.

#### **Longitudinal Data**

The ability to view changes over time is essential to detect emerging trends and allow for meaningful planning. This section presents notable changes between FY99 and FY01\*. Summaries and tables are provided for each of the five domains.

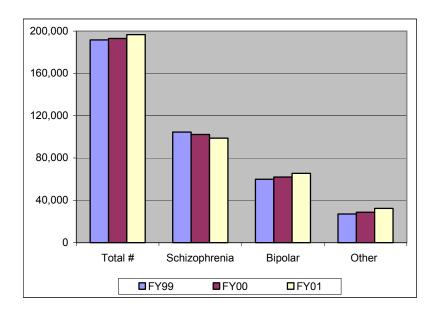
#### **Demographics**

- The population of patients with psychosis continues to rise, up 1.9% from FY00 and 2.7% from FY99.
- This growth is due to expansion in the number of patients with bipolar disorder (up 5.8% from FY00 and 9.4% from FY99) and other psychoses (up 12.8% from FY00 and 19.6% from FY99).
- The number of patients with schizophrenia has declined (down 3.5% from FY00 and 5.6% from FY99.)
- The percentage of women SMI veterans continues to slowly rise from 6.7% to 7.1% in FY01.
- Minimal differences observed for other demographic variables.

Variable	FY99	FY00	FY01
Total population	191,606	192,982	196,675
Schizophrenia	104,593	102,295	98,739
Bipolar disorder	59,938	61,992	65,556
Other psychosis	27,075	28,695	32,380
Mean age	53.80	54.31	53.97
American Indian	0.3%	0.3%	0.3%
Asian	0.6%	0.6%	0.6%
Black	20.7%	20.6%	20.3%
White	61.0%	61.3%	60.7%
Hispanic	6.0%	6.1%	5.8%
Unknown race	11.4%	11.2%	12.2%
Never married	33.1%	31.9%	30.9%
Married	32.5%	32.6%	32.9%
Divorced/separated	30.2%	31.1%	31.4%
Widowed	4.2%	4.4%	4.8%
Female, %	6.7%	6.8%	7.1%

<sup>\*</sup> This section reports longitudinal comparisons of all patients with a psychosis diagnosis in each year, FY99, FY00, and FY01. Given the decreasing number of patients with schizophrenia (down 5.6% since FY99) and the rising number of patients with bipolar disorder (up 9.4%) and other psychoses (up 19.6%), we investigated whether the observed trends among all patients with psychoses may be explained by case-mix changes. Separate analyses, available from the authors, indicate general consistency by psychosis diagnosis category with the aggregate trends among all patients with psychoses.

#### Patients with Psychosis Diagnoses, FY99-01, by Psychosis Category



#### **Patient Characteristics**

- Mean outpatient GAF scores remained fairly consistent across all years.
- Unreported inpatient GAF scores remain very high, at almost 60%.
- Unreported outpatient GAF scores continue to drop (29.8% in FY99, 18.6% in FY00 and 14.3% in FY01)
- Geographic accessibility, measured by distance to VA care, improved in FY01 after a small decline in FY00. Distance to nearest medical center decreased by 2.1% and distance to the nearest service site decreased by 16.2%.
- The number of patients designated "complex" by VERA rose from 16.6% to 19.3%.

Variable	FY99	FY00	FY01
Mean outpatient GAF score	50.92	50.33	50.56
Unreported Inpatient GAF	28.3%	59.5%	59.3%
Unreported Outpatient GAF	29.8%	18.6%	14.3%
Died during fiscal year, %	2.8%	2.9%	2.8%
MSA resident	79.0%	78.1%	77.9%
Miles from nearest VAMC	26.48	31.32	30.66
Miles from nearest Site	12.22	12.74	10.68
VERA complex, %	17.0%	16.6%	19.3%
Eligibility: Category A, %	97.8%	97.0%	96.3%

#### **Inpatient Utilization**

#### **Inpatient Care**

- Admissions continue to decrease slightly, by 0.5% from FY00 to FY01 and 6% overall.
- From FY99 to FY01, average total inpatient days decreased 23.8%, from 35.03 to 26.7 days per year.
- The percentage of patients with stays of at least 100 days fell from 4.8% in FY99 to 3.4% in FY01.

#### **Inpatient Psychiatric Care**

- Psychiatric admissions continue to drop, though less sharply than before (down 2.7% since FY00 and 20% since FY99).
- Average total psychiatric inpatient days were 8.3% lower since FY00 and 29.2% since FY99.
- The percentage of patients with psychiatric stays of at least 100 days fell from 3.9% in FY99 to 2.6%.

#### **Inpatient Rehabilitation**

- Total days of residential rehabilitation rose 19.7% since FY00 and 32.9% since FY99.
- The percentage of patients with residential rehabilitation stays of at least 100 days rose from 2.7% in FY99 to 6% in FY01.

#### **Inpatient Domiciliary Care**

- Total domiciliary days has shown a steady decrease, 4.3% since last year and 9% overall.
- Percentage of patients with stays of at least 100 days is still high but has declined to 29.4%.

#### **Inpatient Nursing Home Care**

• In FY01 there was a 10.2% increase in total nursing home days after a 19% decrease in FY00.

#### **Outpatient Utilization**

- Virtually all (98.9%) patients with psychosis had outpatient utilization.
- Average total outpatient visits fell 4% from last year.
- Total outpatient clinic stops decreased 9.8% in FY01, with an overall decrease of 26.6% since FY99.
- Overall decrease in stops from FY99 to FY01:

• medical stops: 33.6%

• psychiatric stops: 17.5%

• case management stops: 4.2%

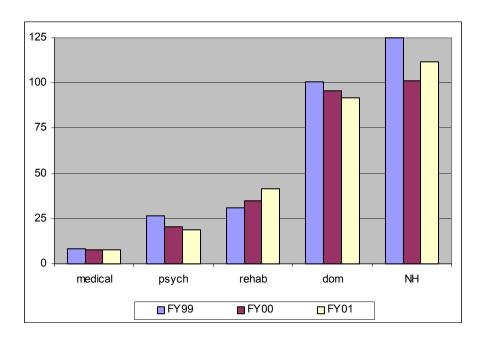
• day treatment stops: 18.8%

• substance abuse stops: 8.9%

## **Inpatient Utilization Table**

Variable	FY99	FY00	FY01
Hospital: Total			
% with some	23.5%	30.9%	29.9%
admits	2.00	1.89	1.88
days	35.03	28.34	26.71
100+ days, %	4.8%	3.6%	3.4%
Hospital: Medical			
% with some	8.9%	14.4%	14.5%
admits	0.65	0.78	0.80
days	8.28	7.68	7.76
100+ days, %	1.0%	0.7%	0.8%
Hospital: Psychiatric			
% with some	17.5%	19.7%	18.7%
admits	1.35	1.11	1.08
days	26.75	20.66	18.95
100+ days, %	3.9%	3.0%	2.6%
% with other institutional care	6.4%	9.4%	9.1%
Residential rehabilitation:			
% with some	1.7%	2.2%	1.7%
admits	1.13	1.12	1.11
days	31.20	34.64	41.45
100+ days, %	2.7%	4.0%	6.0%
Domiciliary:			
% with some	2.0%	3.4%	3.4%
admits	1.17	1.19	1.18
days	100.63	95.69	91.62
100+ days, %	31.9%	30.8%	29.4%
Nursing Home:			
% with some	3.1%	4.4%	4.4%
admits	1.20	1.26	1.24
days	125.19	101.40	111.73
100+ days, %	31.9%	33.9%	33.5%

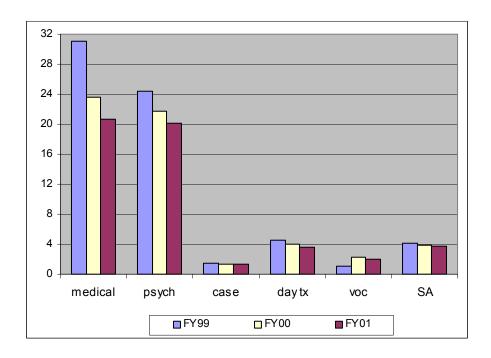
## Average Cumulative Days of Stay among Psychosis Patients with some use in that setting, FY99-01



## **Outpatient Utilization Table**

Variable	1999	2000	2001
Some outpatient care, %	98.8%	98.9%	98.9%
Visit days, total	27.48	27.33	26.25
Clinic stops, total	55.52	45.23	40.78
Clinic stops, medical	31.11	23.55	20.65
Clinic stops, psychiatric	24.41	21.29	20.13
Clinic stops, case management	1.43	1.38	1.37
Clinic stops, day treatment	4.48	3.96	3.64
Clinic stops, substance abuse	4.14	3.84	3.77
Clinic stops, vocational	1.08	2.23	2.03

## Mean Outpatient Clinic Stops among Psychosis Patients with some Outpatient Use, FY99-01, by setting



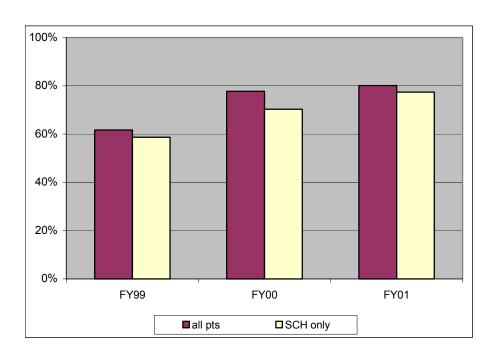
#### Medication

- The percentage of all patients with psychosis who received Quetiapine increased dramatically, from 3.2% in FY99 to 14.1% in FY01.
- Among patients with schizophrenia, Clozapine use has continued to slowly increase, to 2.9% in FY01.
- Among patients with schizophrenia, the percentage who received atypical anti-psychotics rose from 58.7% in FY99 to 77.4% in FY01.
- Among patients with schizophrenia receiving one category of antipsychotic, the mean Medication Possession Ratio (MPR) rose in FY01 (to 81.2%) after being down in FY00.
- The percentage of such patients who were very poorly compliant (MPR <0.5) continues to drop.
- The percentage of patients who received <u>any</u> antipsychotic rose to 59.6%.
- The average number of prescription fills fell 2.5% in FY01, down 13.1% since FY99.
- Concurrent use of two or more antipsychotic medications continued to increase, both for patients with schizophrenia (10.6% to 12.1% to 13.7%) and overall (8.7% to 9.6% to 10.5%).

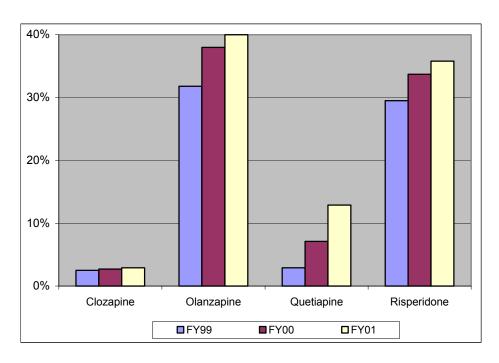
Variable	FY99	FY00	FY01
% on Clozapine (all pts)	1.8%	1.9%	1.9%
% on Clozapine (SCH only)	2.5%	2.7%	2.9%
% on Olanzapine (all pts)	32.6%	39.3%	40.0%
% on Quetiapine (all pts)	3.2%	7.7%	12.9%
% on Risperidone (all pts)	32.1%	36.0%	35.8%
MPR, mean	81.4%	77.4%	81.2%
MPR <= 0.80, %	43.5%	44.3%	39.4%
$MPR \le 0.50, \%$	24.5%	23.7%	19.3%
% some antipsychotic fills	56.4%	57.0%	59.6%
Antipsychotic fills, mean	8.40	7.51	7.30

Variable	FY99	FY00	FY01
% atypical use	61.7%	77.7%	80.1%
% some atypical (SCH only)	58.7%	70.3%	77.4%
Concurrent 2+ meds	8.7%	9.6%	10.5%
Concurrent 2+ meds (SCH only)	10.6%	12.1%	13.7%

Receipt of Atypical Antipsychotics among Psychosis Patients who Received any Antipsychotics, FY99-01



Receipt of Atypical Antipsychotics Among Schizophrenia Patients who Received any Antipsychotics, by type of Atypical, FY99-01



#### Costs

- Total costs increased 2% in FY01, while still 4.3% less than FY99.
- Total costs per patient were virtually unchanged from last year, while 6.8% less than FY99.
  - Outpatient cost per patient increased 15.9% since FY00, and 9.2% since FY99.
  - Inpatient cost per patient continue to fall, dropping -19.8% since FY00 and -24.9% since FY99.
  - Pharmacy costs rose sharply 10.8% since FY00, and 12.3% since FY99.

Methodology*	CDR	CDR	CDR**	DSS
Variable	FY99	FY00	FY01	FY01
Total cost	\$2,987,721,523	\$2,801,672,073	\$2,858,557,485	\$3,082,525,802
Annual costs per patient	\$15,593	\$14,518	\$14,534	\$15,673
Outpatient costs per patient	\$5,893	\$5,553	\$6,435**	\$6,939
Hospital costs per patient	\$6,908	\$6,471	\$5,190**	\$5,597
Other costs per patient	\$2,792	\$2,494	\$2,909**	\$3,137
Psych costs %	41.0%	40.3%	34.6%	34.6%
Pharmacy costs per patient	\$1,356	\$1,374	\$1,523**	\$1,642
Costs other station, %	5.1%	4.5%	4.2%	4.2%
Costs other VISN, %	1.8%	1.7%	1.6%	1.6%

<sup>\*</sup> Cost data source is the Allocation Resource Center (ARC). Cost data in FY99 and FY01 were derived from Cost Distribution Report data (CDR). FY01was a transitional year in which cost data were calculated from the CDR and also from Decision Support System (DSS) data. This report presents DSS costs data.

<sup>\*\*</sup> Analysis of ARC's CDR and DSS-generated FY01 costs indicate that DSS cost estimates were 7.84% greater than ARC's CDR-based estimates. For these comparisons, where actual CDR measures were not available, FY01 DSS costs were adjusted.

#### FY01 Data

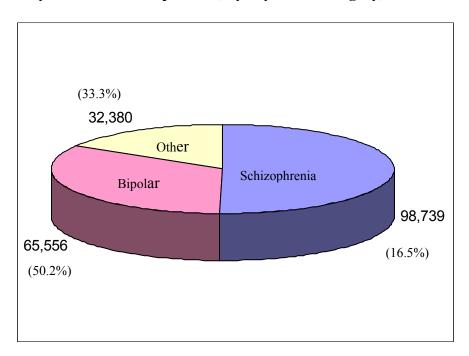
#### **Demographics**

Service needs vary with patient demographics. The ability to follow trends will enable more targeted planning efforts. We report on age, gender, race and marital status.

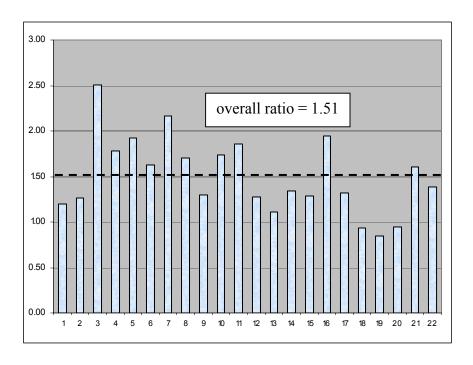
#### Key findings:

- In FY01, VHA provided care to 196,000 patients with psychosis, over 98,000 having a diagnosis of schizophrenia and over 65,000 with bipolar disorder.
  - Approximately 26% of veterans diagnosed with schizophrenia are African American, while, as of 2000, only 20% of the armed services were African American.
- The percentage of veterans with bipolar disorder who are women is over twice as high the percentage of veterans with schizophrenia who are women.
- The mean age of all patients was 54, with almost 25% over the age of 65.
  - Over 26% of patients had a concurrent substance abuse diagnosis.
- The ratio of patients with schizophrenia to those with bipolar disorder ranges from .85 to 2.5 across VISNs. It is unclear to what extent this is due to uneven distribution of diagnoses versus differing practice/diagnosis patterns.

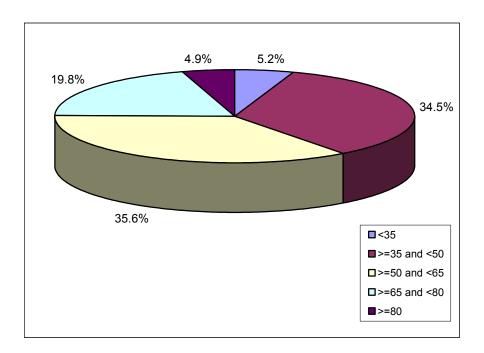
#### Psychosis Patient Population, by Psychosis Category, FY01



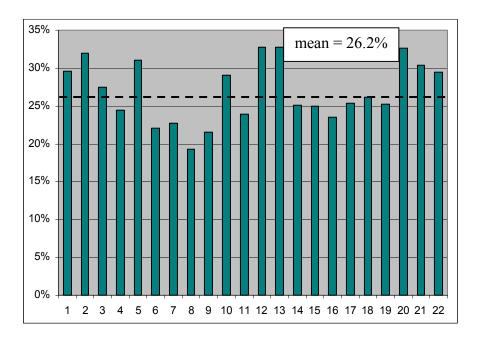
## Ratio of Schizophrenia Patients to Bipolar Disorder Patients, by VISN



Psychosis Patient Populations, by Age, FY01



#### Percentage of Patients with Psychosis with Concurrent Substance Abuse/Dependence, by VISN

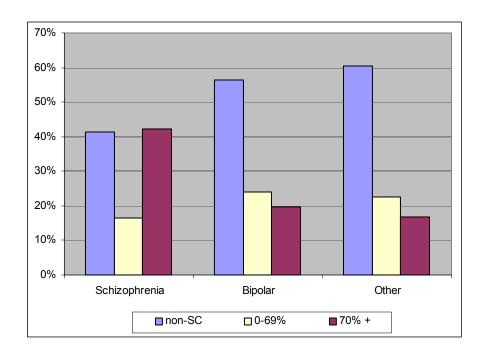


#### **Patient Characteristics**

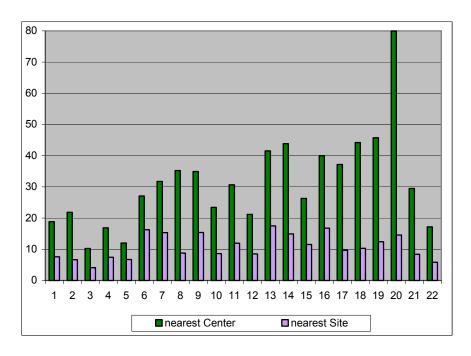
This domain gives a more detailed picture of veterans with psychosis who received care in the VHA, including the patients' history of VA utilization (years since first use and years with inpatient and outpatient use), average inpatient and outpatient GAF scores, as well as the percentage of appropriate patients for whom GAFs were reported, mortality rates (crude and age-and-gender-adjusted), level of service connection, VERA patient class and eligibility category, extent of substance abuse diagnoses, homelessness and the distances to medical centers and service sites.

- Almost 59% of patients with inpatient care did not have a mandated (Department of Veterans Affairs, 1997) GAF score reported.
- Over 85% of patients with outpatient care had a GAF score reported.
- There was substantial variability across VISNs in the percentage of unreported inpatient GAF scores (38% to 75%).
- The average 'lowest inpatient' GAF score for Registry patients was 38.3, with a mean outpatient score of 50.6, both indicating severe impairment in global functioning.
- Almost 13% of patients had an indication of homelessness, with the rates for those with bipolar disorder higher than those with schizophrenia (15% vs. 12.4%).
- Forty-two percent of patients with schizophrenia had service connection of at least 70%, the cut off for long term care provisions mandated in the Millenuium Bill.
- Over the last decade, National Psychosis Registry patients had their first episode of care an average of 7.6 years ago, indicating patients of long standing.
- Using distance from care as a proxy for access, the average number of miles a patient lives from a medical center was 30.7 and 10.7 from any VA service site.

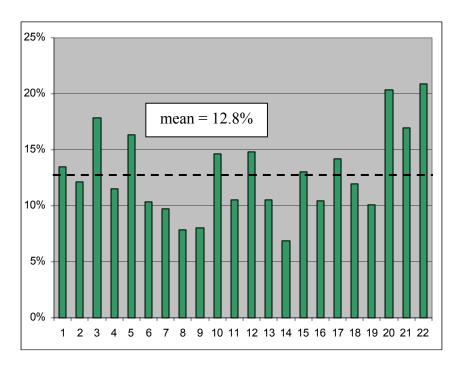
### Service Connection, Among Patients with Psychosis, by Psychosis Category, FY01



Straight-Line Miles to Nearest VAMC and Outpatient Site



#### Percentage of Patients with Psychoses who were Homeless in FY01, by VISN

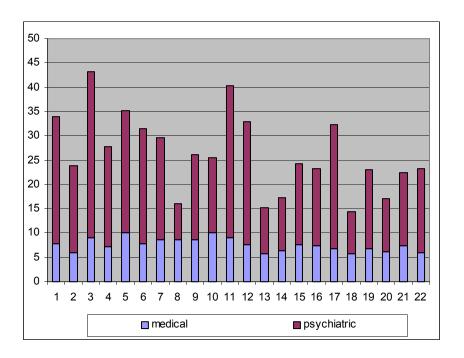


#### Utilization

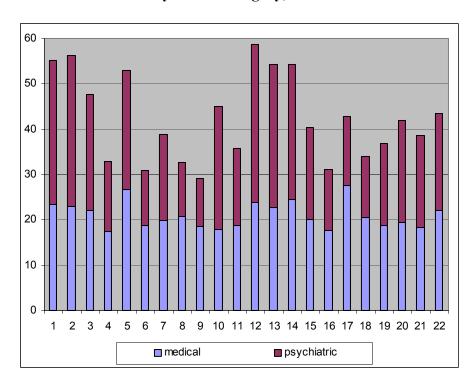
It is imperative that the VA track the use of services by patients with psychotic disorders. We attempt to fulfill this need by reporting extensively on both 24-hour institutional care (hospital, nursing home, domiciliary, and residential rehabilitation) and outpatient care.

- Substantial variability across VISNs observed for numerous measures
  - percentage of patients with inpatient psychiatric care, from a high of 24.7 to a low of 12.8;
  - percentage of patients with an inpatient psychiatric stay of over 150 days, from 5.8 to 0.0;
  - cumulative days of inpatient psychiatric care, from a low of 7.35 to a high of 34.13;
  - percentage of patients with at least one primary care stop, from 79.9 to 58.5;
  - average number of case management clinic stops, from 4.4 to 0.04; and
  - average number of overall clinic stops, from 29.2 to 58.7.
- Overall low use of case management with average of only 1.37 stops per patients.
- 18.7% of Registry patients received inpatient psychiatric care, with an average length of stay of averaging 20.29 days.
- 9.1% of patients received either some residential rehabilitation, domiciliary/vocational or nursing home care.

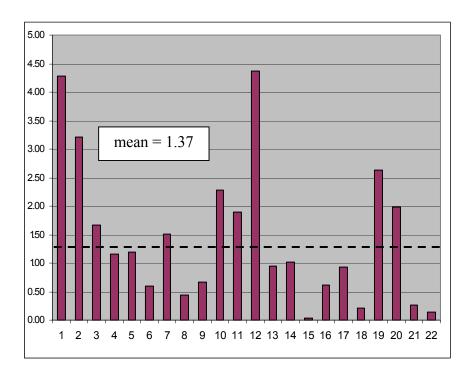
Mean Inpatient Days of Stay, Among Patients with Psychoses who were Hospitalized in FY01, by VISN



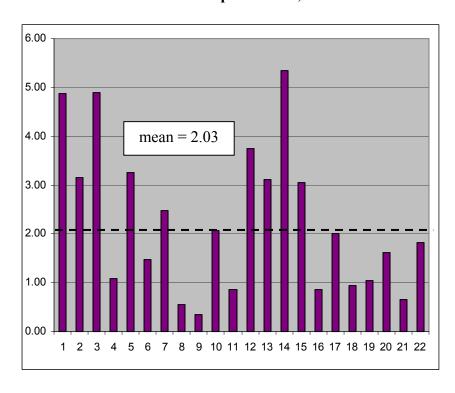
Mean Outpatient Clinic Stops Among Patients with Psychoses with some Outpatient Use, by Clinic Category, FY01



Mean Psychiatric Case Management Clinic Stops among Patients with Psychoses with some Outpatients Use, FY01



Mean Psychiatric Vocational Clinic Stops, Among Patients with Psychoses with some Outpatient Use, FY01



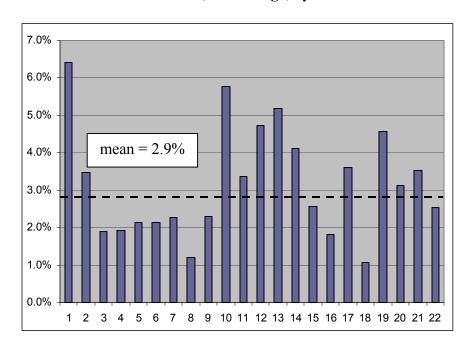
#### **Pharmacy Utilization**

Antipsychotic medications are an essential component of the treatment of patients with schizophrenia. We assessed the use of antipsychotic medication among patients with schizophrenia, using a variety of measures, including: the percentage of patients receiving any oral antipsychotic medication, the percent receiving atypical antipsychotic agents, receiving clozapine, and receiving combination antipsychotic treatment (two or more antipsychotics concurrently).

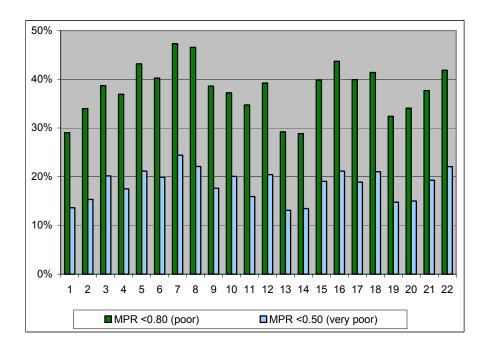
In addition, we calculated a measure of the continuity of antipsychotic treatment, the Medication Possession Ratio (MPR). The MPR is the ratio of the number of days supply of medication that a patient *has received* divided by the number of days supply that they *should have received* had they been taking medication as prescribed. (An MPR of 1 or 100% indicates that the patient has received all the medication needed to take their antipsychotic medication as prescribed. An MPR of 0.5 or 50% indicates that the patient has received medication sufficient to take only half of the prescribed dose.)

- Substantial variability across VISNs was observed for use of Clozapine for patients with schizophrenia, ranging from 1.1 to 6.4 percent.
- Nationwide, only 2.9% of veterans with schizophrenia were prescribed Clozapine
- 77.4% of patients with schizophrenia on antipsychotic medications received atypical agents in FY01.
- Among patients with schizophrenia who received one type of antipsychotics, 39.4% had MPRs less than 80%.
- There was concurrent use of two antipsychotic medications among 13.7% of patients with schizophrenia, despite little systematic research demonstrating efficacy of this treatment approach

Receipt Of Clozapine among Patients with Schizophrenia who received some Antipsychotic Medication, Percentage, by VISN



## Antipsychotic Medication Adherence among Patients with Schizophrenia who Received Antipsychotics, by VISN

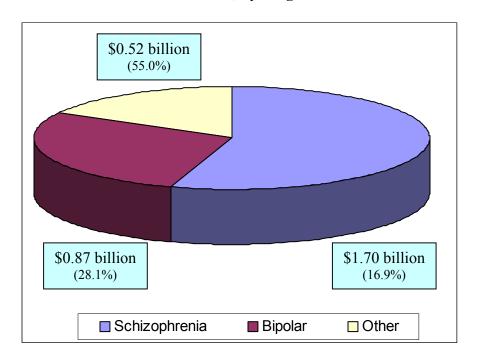


#### Cost

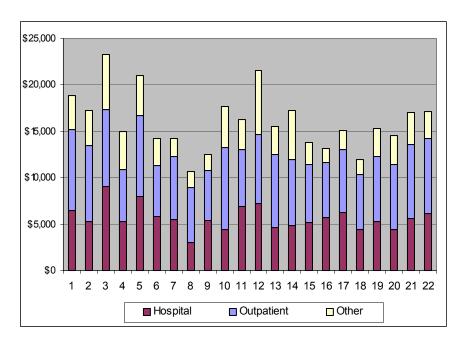
To provide the broadest range of information, we report on total costs for NPR patients, as well as the relative costs of psychiatric and medical care and of inpatient and outpatient care. We also report on 15 specific cost centers.

- Over \$3B was spent in FY01 on this population for medical and psychiatric care, almost 15% of the VA's budget for health care.
- 34.6% of all costs for these patients were for psychiatric care.
- \$15,673 was spent per patient in FY01, 44% for outpatient, 36% for inpatient, 20% for non-VA and long-term care.
- Substantial variability across VISNs was observed for total, inpatient and outpatient costs per patient.
- When mean per patient costs are divided among different cost centers, the top three are psychiatry (\$3,514), outpatient psychiatry (\$1,912) and medical (\$1,641).
- 1.6% of all costs were incurred outside of the patient's home VISN, and 4.2% were outside of the home station.

FY01 Costs, by Diagnosis



Average Cost per Patient, FY01, by VISN



#### **Future Directions**

The annual "Care in the VHA for Veterans with Psychosis" report was designed to present a comprehensive summary of all treatment provided to seriously mentally ill veterans. It provides information essential to inform decision makers in VHA as they continue to struggle to implement practice guidelines, assure compliance with existing mandates and to optimize the efficient delivery of high quality care.

This annual National Psychosis Registry Report is intended to evolve over time to encompass and respond to the needs of its readers. We hope to have a web based data warehouse for next year's data to allow individual readers to access the information most helpful for them. We will also be providing longitudinal comparisons on the VISN level as well as the national level.

As always, SMITREC welcomes feedback and suggestions regarding ways to improve the presentation of data, the interpretation of findings, or the incorporation of additional variables of interest.

#### **Background**

This report focuses on the most vulnerable of those patients with mental illness, those with psychosis. In addition to the chronicity, medication side effects and diminished function, numerous studies indicate that patients with mental illness, especially psychosis, have a greater risk of premature death than the general population (Dembling, Chen, & Vachon, 1999; Black, 1998). There is also evidence that patients with psychosis have higher rates of medical comorbidities (Dalmau, Bergman, & Brismar, 1997) and that there are large numbers who do not receive adequate medical care (Brugha, Wing, & Smith, 1989; Maricle, Hoffman, Bloom, Faulkner, & Keepers, 1987). Caring for this vulnerable population represents a major and costly responsibility for the VHA. In FY01, VHA provided medical and psychiatric care for 196,675 patients with psychosis, at a cost of \$3,082,525,805.

Many characteristics of the population of veterans with psychosis and of the services provided them by VHA are analyzed at the national level, by VISN and for each station. These include descriptive characteristics such as diagnosis, demographics, functional status, mortality rates, VERA patient class and distance from closest VA facility.

Along with health care systems nationwide, the VHA has been rapidly moving from an inpatient to an outpatient model for the provision of general and mental health services. This has led to a greater reliance on community-based programs, intensive case management and care management techniques (VHA, 1998). In order to ensure that these services would in fact provide adequate care for vulnerable patients, Congress passed Public Law 104-262, the Veterans Healthcare Eligibility Reform Act of 1996. It requires that VA "...maintain its capacity to provide for the specialized treatment and rehabilitation needs of disabled veterans... within distinct programs or facilities...that are dedicated to the specialized needs of those veterans in a manner that (A) affords those veterans reasonable access to care and services ...and (B) ensures that overall capacity...is not reduced below the capacity...nationwide...as of October, 1996."

This third annual "Care in the VHA for Veterans with Psychosis" report provides information to the VHA and its VISNs, to assist in monitoring the maintenance of the capacity to treat its SMI population. The VHA's patients with psychosis, the services provided them and the costs associated with these services are described nationally, by VISN and by station, allowing for assessment of similarities and differences, along with trends over time. Of special interest are the various ways in which networks organize their services and direct their resources.

The use of antipsychotic medications is described in a separate chapter. The reporting of pharmacy data provides VHA with information on the use of typical versus atypical antipsychotic medications, with special attention paid to Clozapine usage and to what percentage of patients with psychosis are receiving any appropriate medications in the amounts required to adequately treat their conditions.

"Care for Veterans with Psychosis in the VHA, FY01" paints a timely picture of the state of care for patients with psychosis within the VHA. As differences in treatment and spending priorities emerge, the possible impact of these differences on patient well-being will be explored, supporting efforts to provide the highest quality of treatment possible.

#### **SMITREC**

Public Law 101-507 provided additional financial resources to enhance the care of seriously mentally ill veterans who had been institutionalized in VA medical centers. In compliance with this legislation, the VHA developed the Long Term Mental Health Enhancement Program (now SMITREC) to: 1) support the discharge and maintenance in the community of veterans with serious mental illnesses and a history of institutional dependence; 2) decrease excess mortality; 3) improve recruitment, morale, and retention of clinical care providers for the seriously mentally ill, and 4) develop the capacity of clinicians and managers to identify, conceptualize, and prepare plans to improve and enhance the long-term care of veterans with serious mental illnesses.

Central program enhancement funds were apportioned by Congress to establish new specialized programs for veterans with serious and persistent mental illnesses to facilities traditionally most involved in the care of these patients. SMITREC was established as part of this funding mechanism to monitor and evaluate the transition of care for the seriously mentally ill and to provide policy makers and clinical administrators with data that would assist in the development of alternatives to long-term institutional care. With the reorganization of the VHA and a shift of emphasis from inpatient to outpatient care, SMITREC's evaluation and monitoring role currently includes the impact of deinstitutionalization on access to care, course of treatment, cost of care, medication prescription practices, and outcomes (e.g. quality of life, patient satisfaction, functioning, symptomatology, loss to VA care, homelessness).

#### The Psychosis Registry

Following the recommendation of the Committee on Care of Severely Chronically Mentally Ill Veterans, the Serious Mental Illness Treatment Research and Evaluation Center (SMITREC) developed the Psychosis Registry in 1998. The Psychosis Registry is an ongoing registry of all veterans diagnosed with psychosis (schizophrenia other than latent, schizoaffective disorder, bipolar disorders, and other non-organic psychoses) who have received VHA services from 1988 to the present. Thus, the registry consists of records for all patients who received a diagnosis of psychosis during inpatient stays for FY88-FY01 and during outpatient visits for FY97-00.

The Psychosis Registry has been and will be used for a number of different analyses. In late 1999, SMITREC presented a white paper to the VA titled "Veterans with Psychosis in the VHA FY89-FY98: Access to Care, Loss to Follow-up, and Mortality" which studied trends in health care utilization, deinstitutionalization, capacity, mortality, and other issues related to the care of the seriously mentally ill veterans in the VHA. Current and upcoming areas of work, and recent publications, include: "Gender differences in the diagnosis and treatment of serious mental illnesses in the VHA: Special issues for women veterans", "Health care utilization among patients with schizophrenia and diabetes", Major Psychotic Disorders as Predictors of Outcome in Surgical Patients", "Determinants of Treatment Retention for Veterans with Psychoses", "Excess Mortality Among Veterans with Serious Mental Illness", "Pharmacy data identifies poorly adherent patients at increased risk for admission", and "Poor Antipsychotic Adherence Among Patients with Schizophrenia: Medication and Patient Factors" (Valenstein et al., 2002; Valenstein et al., submitted for publication).

.

#### **Report Overview and Structure**

Registry patients were identified using data obtained from the VA Patient Treatment File (PTF), census data files, and Outpatient Care Files (OPC) located at the Austin Automation Center in Texas and were included provided they had at least one qualifying psychosis diagnosis in the FY01 inpatient or outpatient data. Qualifying diagnoses included schizophrenia disorders other than latent, schizoaffective disorder, bipolar disorders, and other non-organic psychoses. (See Appendix A for specific ICD-9 codes included.)

Because the treatment needs and disease course differ substantially among diagnoses, variables are reported for each group separately and collectively. Patients often receive more than one diagnosis over time or even during one episode of care. Patients were therefore "assigned" to the diagnosis which appeared in the greatest number of episodes of care during FY01. Ties were resolved using a rank ordering of 1) schizophrenia, 2) bipolar disorder and 3) other psychosis.

The VA Site Tracking (VAST) system was used to identify parent station groupings among VISNs and each patient was assigned to a station bases on where they had the most inpatient and outpatient utilization in FY01. This algorithm assessed one inpatient day of stay as equivalent to two outpatient visit days in order to account for the possibility of one inpatient stay unreasonably affecting the outcome.

The Report consists of five chapters, each focusing on a specific domain of interest to the VA. These domains include demographics, patient characteristics, utilization, use of anti-psychotic medication and cost. Each chapter includes discussion of the domain, global tables offering an overview of the entire VA and tables comparing the same variables across VISNs. Our web site (<a href="http://www.va.gov/annarbor-hsrd/">http://www.va.gov/annarbor-hsrd/</a>) presents the same variables for each station, organized by VISN.